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(12) United States Patent Yang et al.

(54) VANITY MIRROR

(71) Applicant: **simplehuman, LLC**, Torrance, CA

(US)

(72) Inventors: Frank Yang, Rancho Palos Verdes, CA

(US); **David Wolbert**, Redondo Beach, CA (US); **Joseph Sandor**, Newport Beach, CA (US); **Orlando Cardenas**, Laguna Niguel, CA (US); **Frederick N.**

Bushroe, Tucson, AZ (US)

(73) Assignee: simplehuman, LLC, Torrance, CA

(US)

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(56) References Cited

U.S. PATENT DOCUMENTS

D44,537 S 8/1913 McIsaac 2,004,166 A 6/1935 Low (Continued)

FOREIGN PATENT DOCUMENTS

CA 147356 4/2013 CN 302432849 5/2013 (Continued)

OTHER PUBLICATIONS

Advanced Lighting Guidelines, 1993 (second edition), Chapter entitled "Occupant Sensors"; Published by California Energy Commission (CEC Pub.).*

(Continued)

Primary Examiner — Hargobind S Sawhney (74) Attorney, Agent, or Firm — Knobbe Martens Olson & Bear LLP

(57) ABSTRACT

A mirror assembly can include a housing, a mirror, and a light source. In certain embodiments, the mirror includes a light pipe configured to emit a substantially constant amount of light along a periphery of the mirror. In some embodiments, the mirror assembly includes a sensor assembly. The sensor assembly can be configured to adjust the amount of emitted light based on the position of a user in relation to the mirror. Certain embodiments of the mirror include an algorithm to adjust light based on the position of a user relative to the mirror, the level of ambient light, and/or the activation of different light modes.

19 Claims, 13 Drawing Sheets

